



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,821	12/14/2004	Shinji Inazawa	51023-025	8803
20277 7590 02/05/2008 MCDERMOTT WILL & EMERY LLP 600 13TH STREET, N.W. WASHINGTON, DC 20005-3096			EXAMINER YANG, JIE	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 02/05/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/517,821	Applicant(s) INAZAWA ET AL.	
	Examiner Jie Yang	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Claims 1-6 are pending in application, wherein claim 1 is amended.

#### ***Status of the Precious Rejection***

The previous rejection of claims 1-5 under 35 U.S.C. 103 (a) over Puetter (DE 3300865, thereafter DE'865) in view of Senda et al (U.S 5435830, thereafter US'830) is maintained. The new limitations in view of the applicant's amendment in claim 1 have been addressed as following.

The previous rejection of claim 6 under 35 U.S.C. 103 (a) over DE'865 in view of US'830 as applied on claim 1-5 and further in view of Harrison et al (US 5,409,581, thereafter US'581) is maintained.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, are rejected under 35 U.S.C. 103(a) as being unpatentable over Puetter (DE 3300865, thereafter DE'865) in view of Senda et al (U.S 5435830, thereafter US'830).

DE'865 in view of US'830 is applied to the claims 1-5, for the same reason as stated in the previous rejection dated 8/21/2007.

Regarding amended limitation in claim 1, DE'865 teaches the process for the production of aqueous titanium (III) chloride solutions by cathodic reduction of titanium (IV) chloride solutions in cells (Page 5, 2<sup>nd</sup> paragraph of English translation of DE'865) and teaches control the conversion percentage for  $TiCl_3$  solution under different conditions (Page 7, last paragraph to Page 8, 2<sup>nd</sup> paragraph; and examples 1-3 of English translation of DE'865), which reads on the limitation of the reducing agent solution containing both the trivalent titanium ions and the tetravalent titanium ions at a predetermined existing ratio as claimed in the instant claim. As stated in the previous rejection dated 8/21/2007, DE'865 in view US'830 teaches growing fine metal particles by the reduction action of titanium trichloride (Refer to the rejection for previous claim 1 in the previous rejection dated 8/21/2007). DE'865 does not specify the fine metal powder having a particle diameter corresponding to the existing ratio of the trivalent titanium ions and the tetravalent titanium ions. However, the metal reduction for fine metal particle depends on the amount of trivalent titanium ions

and has no directly relation with tetravalent titanium ions. Therefore, the relationship between particle diameter and the ratio of Ti(III)/Ti(IV) is same as relationship between particle diameter and the amount of Ti(III) in the solution. The amount of Ti(III) ions is a result-effective variable in term of diameter of metal particles, which is evidenced by US'830. US'830 teaches using different amount of Ti(III) solution to obtain different metal particles with diameters. Therefore, it would have been obvious to one skilled in the art to have optimized the ratio of the trivalent titanium ions and the tetravalent titanium ions (same as the amount of Ti(III) ions) as claimed in the instant claim in the process of DE'865 in view of US'830 in order to obtain the metal particles with the desired diameter. See MPEP 2144.05 II.

Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over 'DE865 in view of '830 as applied on claim 1-5 and further in view of Harrison et al (US 5,409,581, thereafter '581).

DE'865 in view of US'830 and further in view of US'581 is applied to the claim 7, for the same reason as stated in the previous rejection dated 8/21/2007.

***Response to Arguments***

Applicant's arguments filed on 11/20/2007 with respect to claim 7 has been fully considered but they are not persuasive.

Applicant's arguments are summarized as follows:

1, DE'865 does not explicitly teach producing fine metal powder.

2, US'830 discloses a reducing agent solution containing trivalent titanium ions, not a solution of both trivalent and tetravalent ions. US'830 does not explicitly teach the claimed process.

3, DE'865 and/or US'830 fail to disclose the new amended features.

4, Regarding claim 6, US'581 does not teach a fine metal powder is produced using the claimed reducing agent solution.

**Responses are as follows:**

Regarding arguments 1, 2, and 4, applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). DE'865 in

view of US'830 teaches the limitations of instant claims 1-5 and DE'865 in view of US'830, and further in view of US'581 teaches the limitation of claim 6, The motivations for combine these references can further refer to office action marked 8/21/2007.

Regarding the new amended limitations in the instant claim 1 (The instant argument 3), please refer to the above discussions in the instant office action.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Application/Control Number:  
10/517,821  
Art Unit: 1793

Page 7

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jie Yang whose telephone number is 571-270-1884. The examiner can normally be reached on M-F, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-2721244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JY

(JY)

  
**ROY KING**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1700**